

***Supplement to
Adolescent Births:
A Statistical Profile***

***Massachusetts
1996***

***Teen Birth Characteristics
for Teen Challenge Fund
Communities***

***Massachusetts Department of Public Health
Bureau of Family and Community Health, Office of Statistics and Evaluation
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Foreword*

Changes in birth data collection affecting information in *Supplement to Adolescent Births: A Statistical Profile, Massachusetts 1996, Teen Birth Characteristics for Teen Challenge Fund Communities*:

In 1996, Massachusetts implemented a major revision to the birth certificate form. At the same time, Massachusetts maternity hospitals began using a new Electronic Birth Certificate (EBC) system. As a result, future years of Massachusetts natality data will afford public health researchers, program planners, the health care community, and the public with vastly expanded information that more accurately reflects their needs and the times. However, the transition period created a significant impact on several elements of the 1996 data year. As a result, not all elements can be compared precisely with the data published in previous editions of this report.

This year's publications, *Adolescent Births: A Statistical Profile, Massachusetts 1996*, and the *Supplement for Teen Challenge Fund Communities* seek to present, as closely as possible, natality data consistent with 1995 and previous years. Future publications of these reports will be presented with the new format and will use the new data elements now available. For this publication, various items in the 1996 dataset were recoded for consistency with the 1995 format. The most significant inconsistencies between 1996 and previous years include the following:

Adequacy of Prenatal Care: The 1996 revised birth certificate collects data for the calculation of the Kessner Index in a different manner. From 1986 to 1995, data elements for use in calculating the adequacy index were as follows: Month of Pregnancy Prenatal Care Began (coded as 1-9) and Number of Prenatal Visits, adjusted by Gestational Age for premature infants.

Hospitals were required to calculate the Month of Pregnancy from data available in medical and prenatal records. In 1996, the data elements for use in calculating the adequacy index are Month of Pregnancy Prenatal Care Began (1-9) and Number of Prenatal Visits, adjusted by Clinical Estimate of Gestation for premature infants. But, rather than have individual hospitals make determinations of Month of Pregnancy, the new birth certificate asks hospitals to report the precise Date of First Prenatal Care Visit. This change dramatically increases the consistency of data collection across facilities and yields a more standardized calculation of Month of Pregnancy Prenatal Care Began. Rather unexpectedly, however, Month of Pregnancy Prenatal Care Began showed a significant decline in first trimester visits when Date of First Visit determined the month as opposed to hospital reporting of Month. When comparing the adequacy index for 1995 and 1996, there is almost universal decline in state and hospital adequacy rates. **This decline is unlikely to reflect a significant actual decline, but rather a data adjustment due to a more accurate data collection method used in 1996.**

Unknown rates: The 1996 data year has a significantly higher rate of "unknown values" for some variables than in previous years. The implementation of the new EBC and the new birth certificate items proved to be a formidable task. The staff and other resource expenditures required to streamline the system were enormous, and hospitals, without exception, were obligated to make significant changes in their procedures and data collection activities to

accommodate the new data reporting requirements. The birth certificate system was greatly expanded, not only to increase data collection, but also to serve as the primary surveillance dataset for multiple agencies and programs that previously provided separate data collection instruments to Massachusetts facilities. Even though the birth certificate was expanded, the number of times a hospital was required to report similar information to different agencies was reduced. However, a “grace period” was afforded hospitals to adjust to the new requirements, and routine data quality efforts with the facilities were suspended for approximately six months while procedural and computer systems issues were resolved. As a result, the “unknowns” for many items were not as stringently queried and validated for the early part of 1996.

Payor Source: The 1996 birth certificate significantly changes the way prenatal and delivery method of payment data is collected. Particularly striking are the differences between 1995 and 1996 in the categories “Blue Cross” and “HMO.” In the past, hospitals were provided with a checklist that forced a choice between the two categories (and various others). In 1996, hospitals could choose both. The algorithm to translate the new payor source responses to the 1995 format may not accurately reflect the category hospitals might have chosen in the past. This report places all Blue Cross/Managed Care responses into the HMO category and all Blue Cross/non-Managed Care responses into the Blue Cross category. It is likely that, in the past, many hospitals chose “Blue Cross” when a Blue Cross/HMO payment source was given, when in fact the desired response would have been HMO. Therefore, comparisons between 1996 data and previous years’ data for payor source should be made with caution.

Population Data: Population data used as denominators for calculating teen birth rates come from two primary sources. 1990 population data for communities by age and gender are from the federal Census. Population data for 1995 are revised estimates produced in June 1997 by the Massachusetts Institute for Social and Economic Research (MISER) using 1990 Census data, birth, death, migration, and school enrollment data. Estimates for 1996 population denominators were extrapolated from the 1995 estimates. **Because of revisions made to the MISER estimates, teen birth rates, and other age-specific birth rates for the years 1991 to 1995 were recalculated for this publication, resulting in different rates from those previously published, and should be considered the most accurate available. It is advisable not to compare birth rate data from this publication with previously published data.**

We apologize for any inconvenience these changes may cause. Ultimately, we feel these modifications will greatly enhance the quality, completeness, depth, and utility of the birth certificate data. We are indebted to the Bureau of Health Statistics, Research and Evaluation for this explanatory foreword.

* Adapted from the Technical Foreword in *Advance Data: Births 1996*.

Executive Summary

Introduction

This *Supplement to Adolescent Births: A Statistical Profile* presents selected statistics and trend data on births to adolescent women living in those Massachusetts communities funded by the Massachusetts Department of Public Health Teen Challenge Fund Initiative. This *Supplement* accompanies the more comprehensive *Adolescent Births: A Statistical Profile for Massachusetts* report which provides annual statewide statistics. Selected tables from the more comprehensive report (Tables 23 through 26) have been revised to present data solely on the Teen Challenge Fund communities.

The Massachusetts Teen Challenge Fund Initiative is a multi-faceted teen pregnancy primary prevention program, funded by the Commonwealth since 1986, which targets communities with teen birth rates that are substantially higher than the state-wide average. The funding is used to develop community-based coalitions which promote public/private partnerships that implement a continuum of primary prevention services targeting at-risk youth (10-19 years old) and that successfully empower youth as leaders. In addition to an existing twelve coalitions, five new coalitions were newly funded as of December 1st, 1995 in Brockton, Haverhill, New Bedford, Taunton, and Berkshire County, bringing the total number to 17. While the majority of coalition communities consist of a single city/town, five out of the 17 represent consortia of grouped cities/towns; these include Franklin County (targeting Athol, Greenfield, Orange, Montague), South Worcester County (targeting Oxford, Webster, Southbridge), North Worcester County (targeting Fitchburg, Gardner, Leominster), Chelsea (which also targets Revere), and Berkshire County (targeting Pittsfield and North Adams). Data for these five consortia are presented in the following tables for both individual cities/towns in those areas and for the grouped communities. Consequently, while there are 17 Teen Challenge Fund coalition communities, data for 26 individual cities/towns are presented here.

Technical Notes

Unless specified otherwise, teen births refers to all infants born to women ages 19 and under. We recommend that the following cautions be kept in mind when examining the data:

- In cases where there are small numbers of teen births, especially at the city/town level and by race/ethnicity or age, small changes in the numbers from year to year will produce large changes in percentages, making the differences appear more significant than they are in reality.
- Unless otherwise stated, percentages are based on the number of births or mothers that have known information regarding a demographic or birth characteristic.
- Birth rates (number of births per 1,000 women) are calculated using Census counts of the resident population of Massachusetts. Because the Census is taken only once every ten years, the annual number of residents in each city/town and in the state for non-Census years are estimates, not actual counts. Therefore, the numbers of resident women may be underestimated (resulting in inflated birth rates), or overestimated (resulting in lower birth rates). Some of the fluctuations in teen birth rate trends, particularly community-level teen birth rates, may reflect changes in the teen female population in those communities. *Please note that the population estimates for 1991-1996 were revised in June 1997. As a result, the*

birth rates for these years were recalculated for this publication and should be considered the most accurate available. It is advisable not to compare birth rate data from this publication with previously published data.

Summary

I. Trends in Community-Specific Teen Birth Rates

- Teen birth rates (number of births per 1,000 women ages 15-19 years) in fifteen of the 26 Challenge Fund communities stayed the same or decreased in 1996 compared to the previous year. Compared to 1990 teen birth rates, eighteen of the 26 communities stayed the same or showed an overall decrease in 1996.
- Holyoke continued to have the highest teen birth rate among the Teen Challenge Fund communities (102.6). This was almost twice the 1996 U.S. rate (54.4).
- Three out of the five communities with the highest teen birth rates in 1996 experienced increases between 1995 and 1996. However, all five of these communities had lower teen birth rates in 1996 than in 1990. For example, despite a 6.2% increase in the teen birth rate between 1995 and 1996, Holyoke showed a marked decline from 1990 to 1996 (from 140.3 down to 102.6). The Holyoke teen birth rate declined 26.9% and the number of live births to women ages 20 and under decreased from 203 in 1990 to 188 in 1996.
- Some Teen Challenge Fund communities showed overall increases in their teen birth rates since 1990. For example, Brockton, Taunton, Leominster, Pittsfield, and Revere all had higher rates in 1996 compared to 1990. Brockton increased from 67.8 to 74.4, Taunton from 61.0 to 70.1, Leominster from 37.8 to 68.5, Pittsfield from 48.3 to 58.9, and Revere from 42.3 to 66.1.

II. Other Teen Birth Characteristics

- In all of the top five communities, births to teens (particularly younger teens) were more likely to have Hispanic mothers than births to women ages 20 and over. For example, in Holyoke and Lawrence, while 53.4% and 61.4% of births to women ages 20 and over had Hispanic mothers, 88.1% and 82.2% of births to teens ages 12-17 years had Hispanic mothers, respectively.
- Boston had the highest percentage of low birthweight (14.2%) in 1996 among the Teen Challenge Fund communities, followed by Fitchburg (13.7%) and Southbridge (12.8). *The total number of teen births in Southbridge (39) is small and all the percentages reported for Southbridge should be interpreted cautiously.*
- As in 1995, Lawrence had the highest percentage of teen births with inadequate or no prenatal care in 1996 among the Teen Challenge Fund communities (14.6%), a much higher percent than the state-wide average (8.5%). *Due to changes, beginning in 1996, in the collection of*

information on Adequacy of Prenatal Care, caution should be used when comparing these data over time.

- In 1996, Holyoke had the highest percentage of teen births to mothers who had had at least one previous live birth (36.5%), followed by Lynn (30.9%), Fitchburg (27.5%), and Springfield (26.5%).
- Over one-third of teen mothers in Holyoke, Haverhill, Southbridge, Fitchburg, Chelsea, Fall River, Lowell, and Worcester were behind grade level in 1996 (see Glossary for definition), with the highest percentage being in Holyoke (39.3%).
- All ten of the teen births in Montague had paternity acknowledged in the birth hospital. Other communities with high paternity acknowledgment percentages (over 75%) were Southbridge, Holyoke, Oxford, Fall River, and Athol.

Table 23.
Trends in Birth Rates Among Women Ages 15-19 for
Teen Challenge Fund Communities, Ranked by 1996 Teen Birth Rate*
Massachusetts: 1996, 1995, 1990

| Demographic Area | 1996 | | 1995 | | 1990 | |
|----------------------------|---------------------|-----------------|---------------------|-----------------|---------------------|-----------------|
| | Number Births 15-19 | Teen Birth Rate | Number Births 15-19 | Teen Birth Rate | Number Births 15-19 | Teen Birth Rate |
| Massachusetts | 5,658 | 32.6 | 5,990 | 33.0 | 7,258 | 35.1 |
| United States | 491,577 | 54.4 | 499,873 | 56.8 | 521,826 | 59.9 |
| Holyoke | 188 | 102.6 | 170 | 96.2 | 203 | 140.3 |
| Chelsea ¹ | 91 | 93.8 | 74 | 77.0 | 105 | 114.8 |
| Lawrence | 278 | 83.7 | 286 | 88.7 | 338 | 122.8 |
| Springfield | 479 | 82.5 | 448 | 76.8 | 523 | 87.9 |
| Brockton‡ | 208 | 74.4 | 183 | 63.9 | 216 | 67.8 |
| Southbridge ³ | 38 | 71.4 | 43 | 79.6 | 48 | 82.5 |
| Taunton‡ | 98 | 70.1 | 85 | 59.6 | 95 | 61.0 |
| Leominster ⁴ | 72 | 68.5 | 60 | 56.6 | 42 | 37.8 |
| Webster ³ | 22 | 68.3 | 30 | 85.7 | 30 | 61.1 |
| Revere ¹ ‡ | 38 | 66.1 | 44 | 67.0 | 45 | 42.3 |
| New Bedford‡ | 216 | 64.6 | 203 | 60.4 | 263 | 76.3 |
| Lowell | 233 | 63.9 | 298 | 81.1 | 309 | 81.3 |
| Lynn | 155 | 62.9 | 175 | 71.1 | 194 | 79.4 |
| Fitchburg ⁴ | 100 | 61.7 | 93 | 56.4 | 146 | 82.1 |
| Oxford ³ | 15 | 58.9 | 10 | 64.9 | 14 | 31.0 |
| Pittsfield ⁵ ‡ | 56 | 58.9 | 68 | 64.9 | 74 | 48.3 |
| Athol ² | 23 | 56.7 | 21 | 52.8 | 17 | 47.8 |
| Fall River | 152 | 55.9 | 169 | 60.4 | 246 | 76.9 |
| Greenfield ² | 26 | 54.4 | 22 | 45.0 | 28 | 51.4 |
| Worcester | 304 | 49.9 | 349 | 56.2 | 399 | 58.8 |
| Gardner ⁴ | 26 | 48.0 | 40 | 73.1 | 57 | 99.8 |
| Haverhill‡ | 69 | 47.8 | 88 | 60.2 | 94 | 60.4 |
| Boston | 794 | 44.1 | 880 | 47.3 | 1,137 | 52.7 |
| North Adams ⁵ ‡ | 34 | 43.3 | 31 | 38.9 | 43 | 50.5 |

| Demographic Area | 1996 | | 1995 | | 1990 | |
|---|---------------------|-----------------|---------------------|-----------------|---------------------|-----------------|
| | Number Births 15-19 | Teen Birth Rate | Number Births 15-19 | Teen Birth Rate | Number Births 15-19 | Teen Birth Rate |
| Montague ² | 10 | 38.2 | 10 | 37.7 | 17 | 60.9 |
| Orange ² | 9 | 28.6 | 12 | 39.1 | 15 | 56.0 |
| Chelsea/Revere ¹ | 129 | 83.5 | 118 | 72.9 | 150 | 75.8 |
| Fitchburg/Gardn/Leominster ⁴ | 198 | 61.6 | 193 | 59.3 | 245 | 70.8 |
| Southbr/Oxford/Webster ³ | 75 | 56.1 | 83 | 60.7 | 92 | 60.4 |
| Pittsfield/North Adams ^{5†} | 90 | 51.8 | 99 | 53.7 | 117 | 49.1 |
| Athol/Greenfield/Orange/Montague ² | 68 | 46.5 | 65 | 44.6 | 77 | 53.2 |

Source: Registry of Vital Records and Statistics, MDPH, 1990, 1995, 1996, and National Center for Health Statistics, 1998; 1990 population data are based on the 1990 Census MARS file; the 1995 and 1996 data are interpolations based on the 1990 Census and the 1995 estimates from the Massachusetts Institute for Social and Economic Research.

* Rates are per 1,000 females ages 15-19 in each city/town.

† These communities are the newest to be funded under the Teen Challenge Fund Initiative, receiving funding for program implementation starting in 1995.

¹⁻⁵ Cities/towns marked with the same numbers make up one of 5 separate consortia of grant recipients. Refer to the "grouped" teen birth data for these consortia in the last section of this table.

Table 24.
Births by Mother's Age, Race and Hispanic Ethnicity
for Teen Challenge Fund Communities
Massachusetts: 1996

| Community | Births | White* | Black* | Hispanic | Asian* | Other/ Unknown | Total |
|------------------------------|-----------------|--------|--------|----------|--------|-------------------|--------|
| Massachusetts | All Ages | 61,716 | 5,473 | 7,746 | 3,594 | 1,635 | 80,164 |
| | < 18 | 979 | 335 | 765 | 80 | 76 | 2,235 |
| | < 20 | 2,952 | 810 | 1,722 | 164 | 201 | 5,849 |
| | 20 + | 58,762 | 4,663 | 6,024 | 3,430 | 1,434 | 74,313 |
| Athol ² | All Ages | 139 | ** | ** | ** | 1 | 145 |
| | < 18 | 9 | 0 | 0 | 0 | 0 | 9 |
| | < 20 | 22 | ** | ** | ** | 0 | 23 |
| | 20 + | 117 | ** | ** | ** | 1 | 122 |
| Boston | All Ages | 2,696 | 2,635 | 1,542 | 555 | 289 | 7,717 |
| | < 18 | 34 | 165 | 114 | 10 | 16 | 339 |
| | < 20 | 108 | 384 | 250 | 25 | 39 | 806 |
| | 20 + | 2,588 | 2,251 | 1,292 | 530 | 250 | 6,911 |
| Brockton‡ | All Ages | 766 | 296 | 152 | 40 | 155 | 1,409 |
| | < 18 | 27 | 16 | 17 | ** | ¥ | 73 |
| | < 20 | 99 | 43 | 39 | 5 | 28 | 214 |
| | 20 + | 667 | 253 | 113 | 35 | 127 | 1,195 |
| Chelsea¹ | All Ages | 138 | 49 | 371 | 33 | 20 | 611 |
| | < 18 | 7 | ** | 27 | ** | 2 | 38 |
| | < 20 | 15 | ** | 68 | ** | 6 | 92 |
| | 20 + | 123 | ¥ | 303 | ¥ | 14 | 519 |
| Fall River | All Ages | 1,035 | 21 | 28 | 34 | 6 | 1,124 |
| | < 18 | 48 | 0 | ** | 0 | ** | 52 |
| | < 20 | 144 | ** | 6 | ** | 1 | 156 |
| | 20 + | 891 | ¥ | 22 | ¥ | 5 | 968 |
| Fitchburg⁴ | All Ages | 358 | 24 | 109 | 42 | 4 | 537 |
| | < 18 | 19 | ** | 21 | ** | 0 | 43 |
| | < 20 | 39 | 7 | 50 | 6 | 0 | 102 |
| | 20 + | 319 | 17 | 59 | 36 | 4 | 435 |

| Community | Births | White* | Black* | Hispanic | Asian* | Other/ Unknown | Total |
|-------------------------|----------|--------|--------|----------|--------|-------------------|-------|
| Gardner ⁴ | All Ages | 227 | 3 | 11 | 13 | 0 | 254 |
| | < 18 | 7 | ** | ** | 0 | 0 | 11 |
| | < 20 | 20 | ** | ** | ** | 0 | 28 |
| | 20 + | 207 | ** | ¥ | ¥ | 0 | 226 |
| Greenfield ² | All Ages | 180 | 5 | 10 | 3 | 4 | 202 |
| | < 18 | 8 | 0 | ** | 0 | ** | 10 |
| | < 20 | 20 | ** | ** | ** | 2 | 26 |
| | 20 + | 160 | ** | ¥ | ** | 2 | 176 |
| Haverhill‡ | All Ages | 789 | 10 | 86 | 17 | 8 | 910 |
| | < 18 | 15 | ** | 6 | 0 | ** | 22 |
| | < 20 | 52 | ** | 15 | 0 | ** | 69 |
| | 20 + | 737 | ¥ | 71 | 17 | ¥ | 841 |
| Holyoke | All Ages | 250 | 14 | 441 | 6 | 9 | 720 |
| | < 18 | 8 | 0 | 74 | 0 | 2 | 84 |
| | < 20 | 28 | ** | 159 | 0 | ** | 192 |
| | 20 + | 222 | ¥ | 282 | 6 | ¥ | 528 |
| Lawrence | All Ages | 347 | 34 | 816 | 37 | 17 | 1,251 |
| | < 18 | 17 | ** | 97 | ** | 1 | 118 |
| | < 20 | 50 | 6 | 222 | ** | ** | 284 |
| | 20 + | 297 | 28 | 594 | ¥ | ¥ | 967 |
| Leominster ⁴ | All Ages | 483 | 18 | 90 | 26 | 7 | 624 |
| | < 18 | 11 | ** | 10 | ** | 0 | 25 |
| | < 20 | 37 | ** | 29 | ** | 0 | 74 |
| | 20 + | 446 | ¥ | 61 | ¥ | 7 | 550 |
| Lowell | All Ages | 906 | 63 | 307 | 341 | 26 | 1,643 |
| | < 18 | 29 | ** | 44 | 26 | ** | 107 |
| | < 20 | 90 | 9 | 92 | 41 | 6 | 238 |
| | 20 + | 816 | 54 | 215 | 300 | 20 | 1,405 |
| Lynn | All Ages | 645 | 155 | 342 | 126 | 46 | 1,314 |
| | < 18 | 24 | 8 | 23 | 8 | 4 | 67 |
| | < 20 | 63 | 18 | 60 | 14 | 7 | 162 |
| | 20 + | 582 | 137 | 282 | 112 | 39 | 1,152 |

| Community | Births | White* | Black* | Hispanic | Asian* | Other/ Unknown | Total |
|-----------|--------|--------|--------|----------|--------|-------------------|-------|
|-----------|--------|--------|--------|----------|--------|-------------------|-------|

| Community | Births | White* | Black* | Hispanic | Asian* | Other/ Unknown | Total |
|----------------------------|----------|--------|--------|----------|--------|-------------------|-------|
| Montague ² | All Ages | 98 | 0 | ** | ** | ** | 101 |
| | < 18 | ** | 0 | 0 | 0 | ** | 3 |
| | < 20 | 10 | 0 | 0 | 0 | 0 | 10 |
| | 20 + | 88 | 0 | ** | ** | ** | 91 |
| New Bedford‡ | All Ages | 907 | 65 | 172 | 8 | 95 | 1,247 |
| | < 18 | 31 | ** | 27 | 0 | ¥ | 71 |
| | < 20 | 120 | 12 | 60 | ** | ¥ | 218 |
| | 20 + | 787 | 53 | 112 | ¥ | ¥ | 1,029 |
| North Adams ⁵ ‡ | All Ages | 152 | 0 | 2 | 2 | 2 | 158 |
| | < 18 | 13 | 0 | ** | 0 | ** | 14 |
| | < 20 | 32 | 0 | ** | ** | 0 | 34 |
| | 20 + | 120 | 0 | ** | ** | 2 | 124 |
| Orange ² | All Ages | 80 | ** | ** | 0 | 2 | 84 |
| | < 18 | 7 | 0 | 0 | 0 | 0 | 7 |
| | < 20 | 10 | ** | ** | 0 | 0 | 10 |
| | 20 + | 70 | ** | ** | 0 | 2 | 74 |
| Oxford ³ | All Ages | 165 | 2 | 4 | 1 | 2 | 174 |
| | < 18 | 3 | 0 | 0 | 0 | 0 | 3 |
| | < 20 | ¥ | ** | ** | ** | 0 | 16 |
| | 20 + | ¥ | ** | ** | ** | 2 | 158 |
| Pittsfield ⁵ ‡ | All Ages | 531 | 30 | 10 | 8 | 9 | 588 |
| | < 18 | 19 | 6 | ** | 0 | ** | 26 |
| | < 20 | 45 | 8 | ** | 0 | ** | 56 |
| | 20 + | 486 | 22 | ¥ | 8 | ¥ | 532 |
| Revere ¹ ‡ | All Ages | 399 | 30 | 67 | 49 | 8 | 553 |
| | < 18 | 7 | 0 | ** | ** | 0 | 14 |
| | < 20 | 18 | ** | 11 | 8 | ** | 38 |
| | 20 + | 381 | ¥ | 56 | 41 | 8 | 515 |
| Southbridge ³ | All Ages | 143 | ** | 66 | 9 | ** | 219 |
| | < 18 | ** | 0 | 11 | 0 | ** | 15 |
| | < 20 | 15 | ** | 22 | ** | 0 | 39 |
| | 20 + | 128 | ** | 44 | ¥ | ** | 180 |

| Community | Births | White* | Black* | Hispanic | Asian* | Other/ Unknown | Total |
|---|----------|--------|--------|----------|--------|-------------------|-------|
| Springfield | All Ages | 943 | 498 | 749 | 63 | 25 | 2,278 |
| | < 18 | 37 | 63 | 114 | ** | ** | 218 |
| | < 20 | 98 | 140 | 238 | 8 | 7 | 491 |
| | 20 + | 845 | 358 | 511 | 55 | 18 | 1,797 |
| Taunton† | All Ages | 692 | 24 | 40 | 6 | 17 | 779 |
| | < 18 | 26 | ** | 9 | 0 | ** | 40 |
| | < 20 | 69 | 10 | 16 | 0 | 3 | 98 |
| | 20 + | 623 | 14 | 24 | 6 | 14 | 681 |
| Webster ³ | All Ages | 169 | 0 | 11 | 2 | 3 | 185 |
| | < 18 | 6 | 0 | ** | 0 | ** | 7 |
| | < 20 | 16 | 0 | 5 | ** | ** | 22 |
| | 20 + | 153 | 0 | 6 | ** | ** | 163 |
| Worcester | All Ages | 1,409 | 183 | 457 | 164 | 40 | 2,253 |
| | < 18 | 37 | 11 | 73 | ** | ¥ | 129 |
| | < 20 | 123 | 31 | 139 | 9 | 8 | 310 |
| | 20 + | 1,286 | 152 | 318 | 155 | 32 | 1,943 |
| Athol/Greenfield/ Orange/Montague ² | All Ages | 497 | 7 | 15 | 5 | 8 | 532 |
| | < 18 | 27 | 0 | ** | 0 | ** | 29 |
| | < 20 | 62 | ** | ** | 0 | 2 | 69 |
| | 20 + | 435 | ¥ | ¥ | 5 | 6 | 463 |
| Chelsea/Revere ¹ | All Ages | 537 | 79 | 438 | 82 | 28 | 1,164 |
| | < 18 | 14 | ** | 30 | 5 | ** | 52 |
| | < 20 | 33 | 3 | 79 | 9 | 6 | 130 |
| | 20 + | 504 | 76 | 359 | 73 | 22 | 1,034 |
| Fitchburg/Gardner/ Leominster ⁴ | All Ages | 1,068 | 45 | 210 | 81 | 11 | 1,415 |
| | < 18 | 37 | ¥ | 33 | ** | 0 | 79 |
| | < 20 | 96 | 13 | 83 | 12 | 0 | 204 |
| | 20 + | 972 | 32 | 127 | 69 | 11 | 1,211 |

| Community | Births | White* | Black* | Hispanic | Asian* | Other/ Unknown | Total |
|---|----------|--------|--------|----------|--------|-------------------|-------|
| Pittsfield/North Adams ^{5†} | All Ages | 683 | 30 | 12 | 10 | 11 | 746 |
| | < 18 | 32 | 6 | ** | 0 | ** | 40 |
| | < 20 | 77 | 8 | ** | 0 | ** | 90 |
| | 20 + | 606 | 22 | ¥ | 10 | ¥ | 656 |
| Southbridge/Oxford/ Webster ³ | All Ages | 477 | 3 | 81 | 12 | 5 | 578 |
| | < 18 | 13 | 0 | 12 | 0 | 0 | 25 |
| | < 20 | 47 | ** | 27 | ** | 1 | 77 |
| | 20 + | 430 | ** | 54 | ¥ | 4 | 501 |

Source: Registry of Vital Records and Statistics, MDPH, 1996.

* non-Hispanic

‡ These communities are the newest to be funded under the Teen Challenge Fund Initiative, receiving funding for program implementation starting in 1995.

** In communities where the total number of births is less than 1,500, information in cells with values less than 5 (excluding the "Other/Unknown" cells) is suppressed when births are cross-classified by age group and race/ethnicity in order to preserve the confidentiality of these cases. In these instances, additional cells with values less than 5 which enable calculation of the number of cases are also suppressed.

¥ These cells have numbers greater than 5 but the numbers were suppressed to prevent inferring the value of another cell which contains fewer than 5 cases.

† Includes births of unknown maternal age.

¹⁻⁵ Cities/towns marked with the same numbers make up one of 5 separate consortia of grant recipients. Refer to the "grouped" teen birth data for these consortia in the last section of this table.

Table 25.
Birth Characteristics Among Teen Mothers in Teen Challenge Fund Communities
Massachusetts: 1996

| Community | Low Birthweight | Adequacy of Care* | | | | |
|----------------------------|-----------------|-------------------|--------------|--------------|--------------|-------------|
| | <2500 g | Adequate | Intermediate | Inadeq/ None | Multiparous* | |
| | Percent† | Percent† | Percent† | Percent† | Number | Percent† |
| Massachusetts | 9.4 | 59.6 | 31.9 | 8.5 | 1,050 | 18.0 |
| Athol ² | 8.7 | 78.3 | 17.4 | 4.3 | 4 | ** |
| Boston | 14.2 | 61.4 | 30.1 | 8.5 | 153 | 19.0 |
| Brockton‡ | 10.8 | 51.7 | 38.8 | 9.6 | 30 | 14.0 |
| Chelsea ¹ | 11.0 | 52.8 | 36.0 | 11.2 | 18 | 19.6 |
| Fall River | 10.9 | 66.7 | 26.8 | 6.5 | 30 | 19.2 |
| Fitchburg ⁴ | 13.7 | 54.0 | 39.0 | 7.0 | 28 | 27.5 |
| Gardner ⁴ | 3.6 | 67.9 | 25.0 | 7.1 | 6 | 21.4 |
| Greenfield ² | 4.0 | 52.0 | 40.0 | 8.0 | 5 | 19.2 |
| Haverhill‡ | 8.7 | 74.6 | 22.4 | 3.0 | 12 | 17.4 |
| Holyoke | 10.5 | 64.9 | 29.2 | 5.9 | 70 | 36.5 |
| Lawrence | 9.2 | 36.5 | 48.9 | 14.6 | 71 | 25.0 |
| Leominster ⁴ | 2.7 | 64.4 | 31.5 | 4.1 | 14 | 18.9 |
| Lowell | 11.5 | 52.8 | 35.3 | 11.9 | 62 | 26.1 |
| Lynn | 6.5 | 61.7 | 31.8 | 6.5 | 50 | 30.9 |
| Montague ² | 0.0 | 66.7 | 33.3 | 0.0 | 3 | ** |
| North Adams ⁵ ‡ | 5.9 | 58.8 | 35.3 | 5.9 | 2 | ** |
| New Bedford‡ | 5.6 | 61.7 | 32.1 | 6.1 | 45 | 20.6 |
| Orange ² | 0.0 | 55.6 | 44.4 | 0.0 | 0 | 0.0 |
| Oxford ³ | 12.5 | 68.8 | 25.0 | 6.3 | 1 | ** |
| Pittsfield ⁵ ‡ | 10.7 | 55.4 | 35.7 | 8.9 | 7 | 12.5 |
| Revere ² ‡ | 10.5 | 57.1 | 40.0 | 2.9 | 6 | 15.8 |
| Southbridge ³ | 12.8 | 64.1 | 25.6 | 10.3 | 9 | 23.1 |
| Springfield | 10.6 | 53.0 | 34.8 | 12.2 | 130 | 26.5 |
| Taunton‡ | 8.2 | 55.7 | 32.0 | 12.4 | 12 | 12.2 |
| Webster ³ | 4.5 | 59.1 | 31.8 | 9.1 | 3 | ** |
| Worcester | 12.3 | 67.8 | 25.0 | 7.2 | 73 | 23.5 |

| Community | Low Birthweight | Adequacy of Care* | | | Multiparous❖ | |
|---|-----------------|-------------------|--------------|--------------|--------------|----------|
| | <2500 g | Adequate | Intermediate | Inadeq/ None | | |
| | Percent† | Percent† | Percent† | Percent† | Number | Percent† |
| Athol/Greenfield Orange/Montague ² | 4.5 | 63.6 | 31.8 | 4.5 | 12 | 17.4 |
| Chelsea/Revere ¹ | 10.9 | 54.0 | 37.1 | 8.9 | 24 | 18.5 |
| Fitchburg/Gardner/Leominster ⁴ | 8.3 | 59.7 | 34.3 | 6.0 | 48 | 23.5 |
| Pittsfield/N. Adams ^{5‡} | 8.9 | 56.7 | 35.6 | 7.8 | 9 | 10.0 |
| Southbridge/Oxford/Webster ³ | 10.4 | 63.6 | 27.3 | 9.1 | 13 | 16.9 |

Source: Registry of Vital Records and Statistics, MDPH, 1996.

* Adequacy of Prenatal Care is determined from an index which combines trimester of prenatal care registration with the number of prenatal care visits.

❖ Multiparous refers to mothers who have had at least one previous live birth. See Glossary for definitions.

‡ These communities are the newest to be funded under the Teen Challenge Fund Initiative, receiving funding for program implementation starting in 1995.

** Percentages were not calculated for fewer than five observations.

† Percentages are calculated only for cases where information is known.

¹⁻⁵ Cities/towns marked with the same numbers make up one of 5 separate consortia of grant recipients. Refer to the "grouped" teen birth data for these consortia in the last section of this table.

Table 26.
Expected Educational Attainment* and In-Hospital Paternity
Acknowledgment* Among Teen Mothers for Teen Challenge Fund Communities
Massachusetts: 1996

| Community | Behind Grade Level* | | Paternity Acknowledgment |
|----------------------------|---------------------|---------|--------------------------|
| | Number | Percent | Percent |
| Massachusetts | 1,485 | 25.6 | 62.8 |
| Athol ² | 6 | 26.1 | 76.2 |
| Boston | 147 | 18.7 | 45.6 |
| Brockton‡ | 57 | 26.9 | 59.0 |
| Chelsea ¹ | 32 | 34.8 | 71.3 |
| Fall River | 54 | 34.8 | 79.1 |
| Fitchburg ⁴ | 35 | 35.0 | 52.2 |
| Gardner ⁴ | 2 | ** | 43.5 |
| Greenfield ² | 3 | ** | 75.0 |
| Haverhill‡ | 25 | 36.2 | 66.1 |
| Holyoke | 75 | 39.3 | 82.6 |
| Lawrence | 78 | 27.7 | 60.6 |
| Leominster ⁴ | 15 | 20.3 | 67.2 |
| Lowell | 81 | 34.3 | 60.7 |
| Lynn | 39 | 25.0 | 55.9 |
| Montague ² | 4 | ** | 100.0 |
| North Adams ⁵ ‡ | 63 | 29.3 | 67.8 |
| New Bedford‡ | 63 | 29.3 | 67.8 |
| Orange ² | 2 | ** | 66.7 |
| Oxford ³ | 3 | ** | 80.0 |
| Pittsfield ⁵ | 13 | 23.2 | 61.1 |
| Revere ¹ ‡ | 10 | 26.3 | 60.6 |
| Southbridge ³ | 14 | 35.9 | 85.7 |
| Springfield | 150 | 30.6 | 55.3 |
| Taunton‡ | 25 | 25.5 | 61.8 |
| Webster ³ | 3 | ** | 75.0 |
| Worcester | 106 | 34.2 | 61.2 |

| Community | Behind Grade Level* | | Paternity Acknowledgment |
|---|---------------------|---------|--------------------------|
| | Number | Percent | Percent |
| Athol/Greenfield Orange/ Montague ² | 15 | 22.1 | 77.4 |
| Chelsea/ Revere ¹ | 42 | 32.3 | 66.1 |
| Fitchburg/ Gardner/ Leominster ⁴ | 20 | 26.0 | 81.8 |
| Pittsfield/ N. Adams ^{5†} | 25 | 27.8 | 68.6 |
| Southbridge/ Oxford/Webster ³ | 52 | 25.7 | 56.4 |

Source: Registry of Vital Records and Statistics, MDPH, 1996.

* "Behind grade level" is defined as being one or more grades behind the maximum expected age for a grade at the time of delivery. See Glossary for further explanation.

‡ These communities are the newest to be funded under the Teen Challenge Fund Initiative, receiving funding for program implementation starting in 1995.

** Percentages based on fewer than 5 observations are not presented because they fluctuate widely.

† Paternity acknowledgment: voluntary self-acknowledgment by fathers or acknowledgment through legal action. This data reflects data collected in hospitals, at time of birth only (see Glossary for further explanation).

¹⁻⁵ Cities/towns marked with the same numbers make up one of 5 separate consortia of grant recipients. Refer to the "grouped" teen birth data for these consortia in the last section of this table.

1996 Population Estimates of Females Ages 15 to 19 Years Living in Massachusetts Teen Challenge Fund Communities

| <u>Community</u> | <u>Estimated Number of Females, Ages 15-19 years</u> |
|-------------------------------------|--|
| Massachusetts | 176,798 |
| Athol | 406 |
| Boston | 18,011 |
| Brockton | 2,797 |
| Chelsea | 970 |
| Fall River | 2,717 |
| Fitchburg | 1,622 |
| Gardner | 542 |
| Greenfield | 478 |
| Haverhill | 1,443 |
| Holyoke | 1,832 |
| Lawrence | 3,320 |
| Leominster | 1,051 |
| Lowell | 3,647 |
| Lynn | 2,464 |
| Montague | 262 |
| New Bedford | 3,345 |
| North Adams | 786 |
| Orange | 315 |
| Oxford | 483 |
| Pittsfield | 950 |
| Revere | 575 |
| Southbridge | 532 |
| Springfield | 5,807 |
| Taunton | 1,399 |
| Webster | 322 |
| Worcester | 6,090 |
| Total in TCF Communities | 62,166 |

Source: 1996 estimates from the Massachusetts Institute for Social and Economic Research (MISER), released as of June 1997.

Glossary

Adequacy of Prenatal Care: Adequacy of prenatal care is calculated from information reported by the birth hospital. The index of Adequacy of Prenatal Care (based on the Kessner Index) has three categories (adequate, intermediate, inadequate/none) based on the trimester in which prenatal care began and the number of prenatal visits. The general classification scheme is:

| <u>Category</u> | <u>Trimester Care Began</u> | <u>Number of Visits</u> |
|-----------------|-----------------------------|-------------------------|
| Adequate | 1 | 9 or more |
| Intermediate | 1 | 5-8 |
| | 2 | 5 or more |
| Inadequate/None | 1 | 1-4 |
| | 2 | 1-4 |
| | 3 | 1 or more |

The classification is adjusted for gestational age to allow for proper classification of premature infants. *See Foreword.*

Birth Rate: see Teen Birth Rate.

Birthweight Categories: Birthweight is the weight of an infant recorded at the time of delivery.

Normal Birthweight (NBW): An infant's weight of 2,500 grams (5.5 pounds) or more

Low Birthweight (LBW): An infant's weight of less than 2,500 grams (5.5 pounds)

Very Low Birthweight (VLBW): An infant's weight of less than 1,500 grams (3.3 pounds)

Education: Education is self-reported on the birth certificate by the mother and indicates the highest grade or total number of years of schooling she has completed.

Ethnicity: Mother's ethnicity is self-reported.

Expected Educational Attainment: Refers to the maximum expected age of a student in a particular school grade. Teen mothers were classified as being at least one grade behind if they were two or more years older than the maximum expected age for the reported grade level. For example, if a teen is 16 years old and reports she has completed eighth grade, then she is at least one year behind the expected age for that grade. The following age-for grade cutoffs were used:

| <u>Grade</u> | <u>Maximum Expected Age</u> |
|--------------|-----------------------------|
| 6th | 12 |
| 7th | 13 |
| 8th | 14 |
| 9th | 15 |
| 10th | 16 |
| 11th | 17 |
| 12th | 18 |

Due to language or educational differences, foreign-born youth are often placed in school at least one grade behind the expected grade. As a result, the foreign-born teen mothers were classified as being at least one grade behind if they were *three* or more years older than the maximum expected age.

Mother's Age: Mother's age is computed from her date of birth and the date of delivery.

Multiparous: Mothers who have had at least one previous live birth.

Parity: The number of live infants ever born to the mother. Parity includes all previous live births as well as the infant named on the birth certificate.

Paternity Acknowledgment: The process by which the paternity of an infant is legally established when the parents are unmarried. As part of the birth registration process at the hospital, parents sign an acknowledgement form and their signatures are notarized. The father's information is then added to the child's birth certificate. Paternity can also be acknowledged at a town clerk's office after the mother and child have been discharged from the hospital. Paternity may be established through legal action or through voluntary acknowledgement in the case of unmarried couples; when a couple is married, the husband is legally considered the infant's father. *Paternity acknowledgement data in this report reflect voluntary self-acknowledgement data collected in hospitals, at time of birth only.*

Race/Hispanic Ethnicity: Mother's race and Hispanic ethnicity are self-reported.

Resident Birth: Resident birth is defined as the birth of an infant whose mother reports her usual place of residence as Massachusetts. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Massachusetts resident births include all births that occur among residents of the Commonwealth whether they occur in Massachusetts or elsewhere.

Teen Births: Births to women under age 20 unless otherwise specified.

Teen Birth Rate: The number of children born to females ages 15 to 19 divided by the population of females in that age group, multiplied by 1,000. Population data used as denominators for calculating teen birth rates come from two primary sources. 1990 population data for communities by age and gender are from the federal Census. Population data for 1995

are revised estimates produced in June 1997 by the Massachusetts Institute for Social and Economic Research using 1990 Census data, birth, death, migration, and school enrollment data. Estimates for 1996 population denominators were extrapolated from the 1995 estimates.